Spot Safety Project Evaluation

Project Log # 200512191

Spot Safety Project # 01-95-254

Spot Safety Project Evaluation of the Realignment/Separation of SR 1167 and Morrison Grove Road in Dare County

Documents Prepared By:

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9/7/06
Date

Spot Safety Project Evaluation Documentation

Subject Location

Evaluation of Spot Safety Project Number 01-95-254 – Realignment/Separation of SR 1167 and Morrison Grove Road. in Dare Co.

Project Information and Background from the Project File Folder

US 64/264 is a 2-lane highway with a speed limit of 45 mph. Both SR 1167 and Morrison Grove Road are 2-lane 35 mph facilities that intersected US 64/264 at the same point (see "Before" collision diagram).

The problem statement was that SR 1167 and Morrison Grove Road were at an awkward configuration with US 64/264. Vehicles entering SR 1167 (one way, northbound) conflicted with vehicles entering or exiting Morrison Grove Road. The improvement chosen for the subject location was to realign SR 1167 to intersect US64/264 at a ninety-degree angle and separate it from Morrison Grove Road. The final completion date for the improvements at the subject location was on May 29, 1998 at a cost of $10,000.

Naive Before and After Analysis

After reviewing the spot safety project file folder along with all the crashes along the subject road, the crash data omitted from this analysis to consider for an adequate construction period was from April 1998 through June 1998. The before period consisted of reported crashes from June 1, 1990 through March 31, 1998 (7 years, 10 Months) and the after period consisted of reported crashes from July 1, 1998 through April 30, 2006 (7 Years, 10 Months). The ending date for this analysis was determined by the available crash data at the time the crash analysis was completed.

The treatment data consisted of all crashes from MP 20.95 to MP 21.02 on US 64/264 with a 150' y-line. The following data table depicts the Naive Before and After Analysis for the above information. Please note that Frontal Impact crash types were the target crashes for the applied countermeasure. These crash types considered are as follows: Left Turn, same roadway; Left Turn, different roadway; Right Turn, same roadway; Right Turn, different roadway; Head On and Angle.

Treatment Information			
	Before	**After**	**Percent Reduction (-) Percent Increase (+)**
Total Crashes	5	6	20.0
Frontal Impact Crashes	3	2	-33.3
Volume	3900	5250	34.6
Treatment Injury Crashes			
	Before	**After**	**Percent Reduction (-) Percent Increase (+)**
Fatal	0	0	0.0
Class A	1	1	0.0
Class B	0	0	0.0
Class C	1	1	0.0
Property Damage Only	3	4	33.3

Table 1.

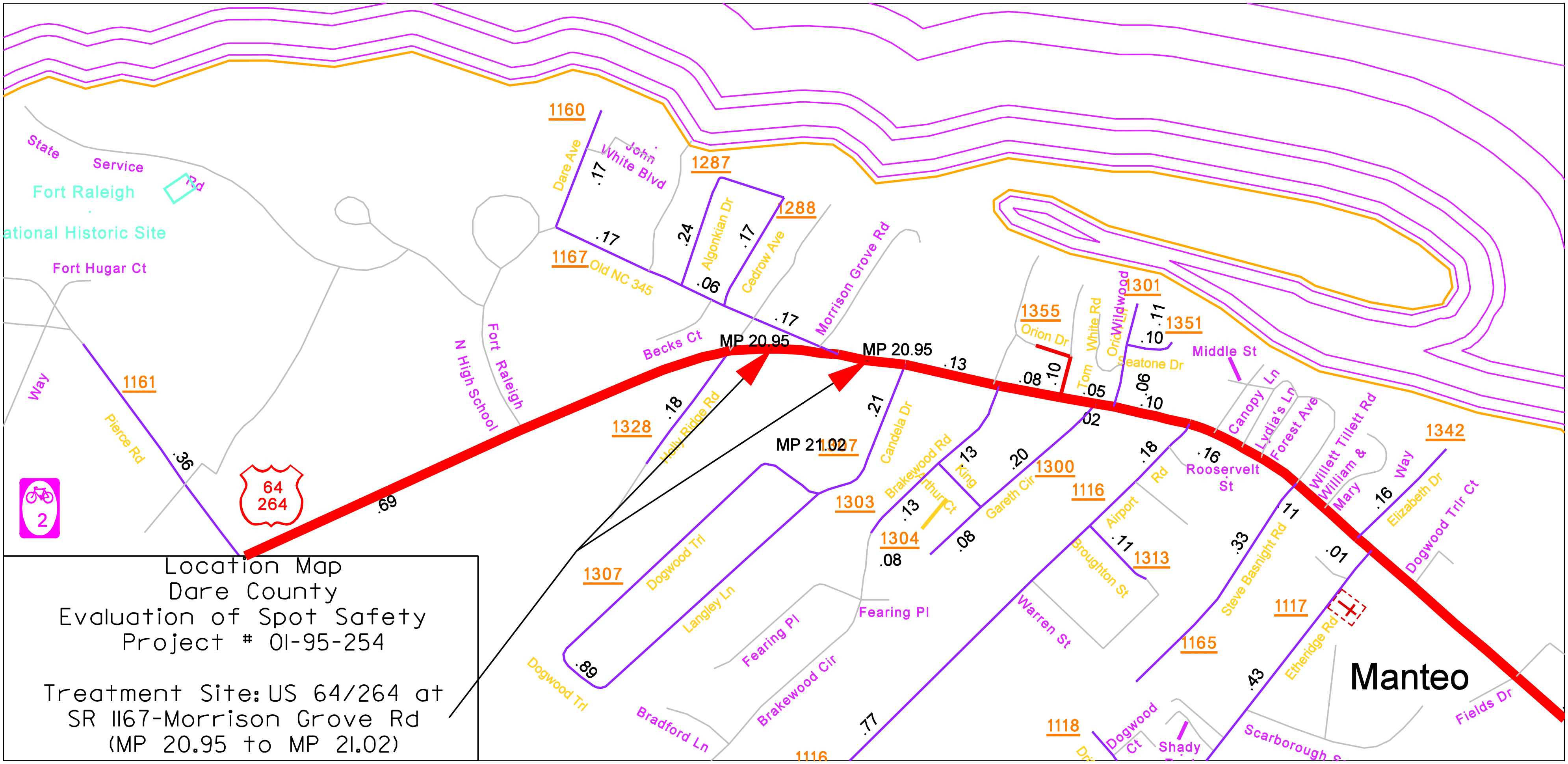
The naive before and after analysis at the treatment location resulted in a 20 percent increase in Total Crashes and a 35 percent increase in Average Daily Traffic (ADT). The before period ADT year was 1994 and the after period ADT year was 2002.

Results and Discussion

The naïve before and after analysis involving the comparison of treatment actual before data versus treatment actual after data resulted in a 20 percent increase in Total Crashes and a 33 percent decrease in Frontal Impact Crashes. The summary results above demonstrate that the treatment location appears to have had an increase in the number of Total Crashes and a decrease in the number of Frontal Impact Crashes from the before to the after period.

The data does not show any significant changes from the before to the after period in any category. During the field investigation we traveled through the intersections without any sight distance issues. The location was observed for approximately 15 minutes after driving through to check for any problem areas, none were noted or observed.

As the Safety Evaluation Group completes additional spot safety reviews for this type of countermeasure, we will be able to provide objective and definite information regarding actual crash reduction factors for this type of road.


Location Map
Dare County
Evaluation of Spot Safety
Project # 01-95-254
Treatment Site: US 64/264 at
SR 1167-Morrison Grove Rd
(MP 20.95 to MP 21.02)
MP 20.95
MP 20.95
MP 21.02
64
264
Manteo
Fort Raleigh
ational Historic Site
State
Service
Rd
Fort Hugar Ct
Way
Pierce Rd
N High School
Fort Raleigh
Old NC 345
Dare Ave
John White Blvd
Algonkian Dr
Cedrow Ave
Morrison Grove Rd
Becks Ct
Holly Ridge Rd
Candela Dr
Dogwood Trl
Langley Ln
Fearing Pl
Fearing Pl
Brakewood Cir
Brakewood Rd
Bradford Ln
Arthur Ct
King
Gareth Cir
Orion Dr
Tom White Rd
Wildwood
Seatone Dr
Middle St
Canopy Ln
Lydia's Ln
Forest Ave
Willett Tillett Rd
William & Mary
Way
Elizabeth Dr
Dogwood Trlr Ct
Rooservelt St
Airport Rd
Broughton St
Warren St
Steve Basnight Rd
Etheridge Rd
Scarborough St
Dogwood Ct
Shady
Fields Dr
1160
1287
1288
1167
1161
1328
1327
1303
1307
1304
1355
1301
1351
1300
1116
1313
1342
1117
1165
1118
1116
.17
.17
.24
.17
.06
.17
.13
.36
.69
.18
.21
.89
.13
.08
.13
.20
.08
.08
.10
.05
.11
.10
.06
.10
.02
.18
.16
.11
.33
.11
.16
.01
.43
.77
2

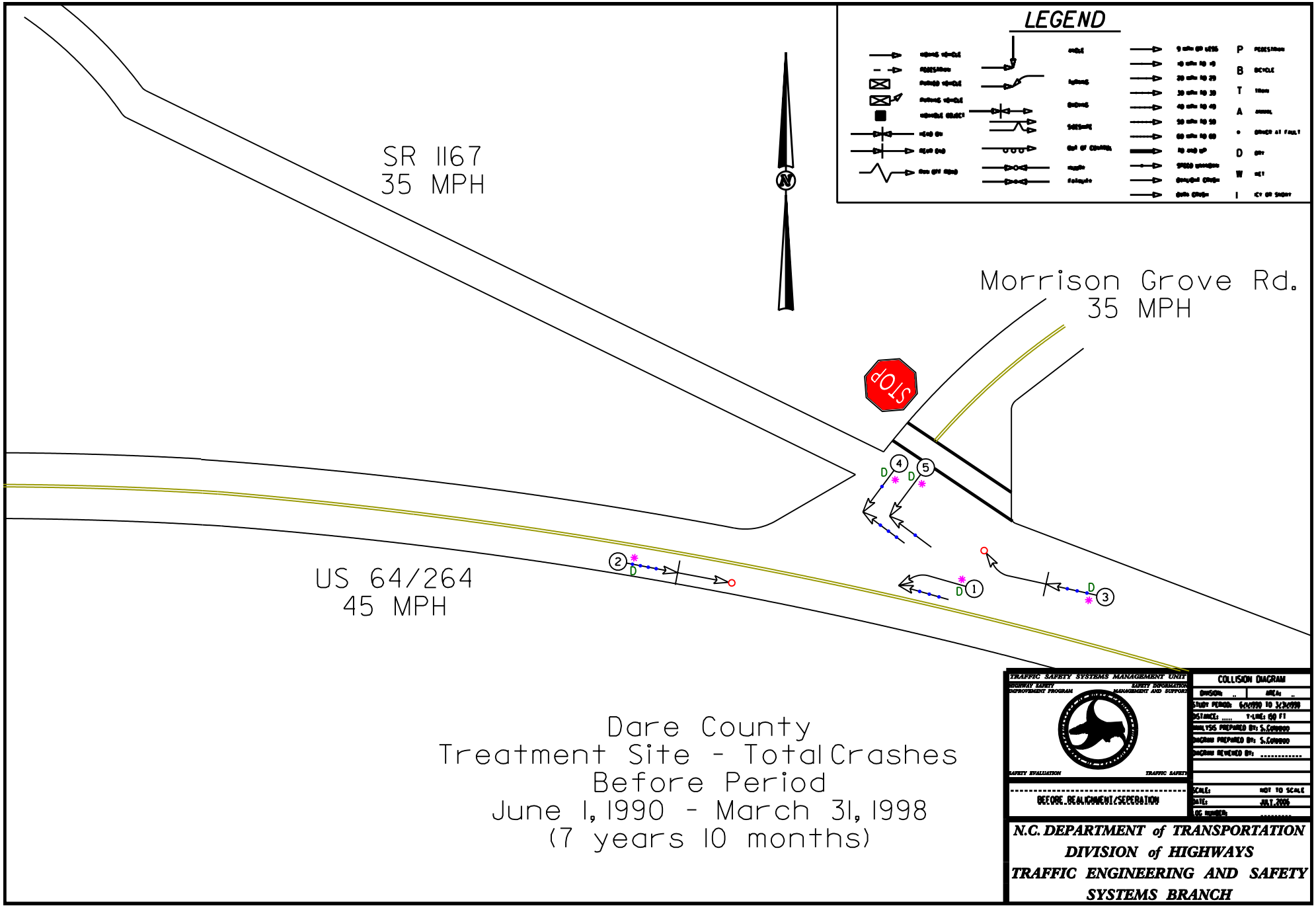
Treatment Site Photos Taken July 18, 2006

Facing east toward Morrison Grove

Facing west toward SR 1167

At SR 1167

Facing north along SR 1167



Dare County
Treatment Site - Total Crashes
Before Period
June 1, 1990 - March 31, 1998
(7 years 10 months)

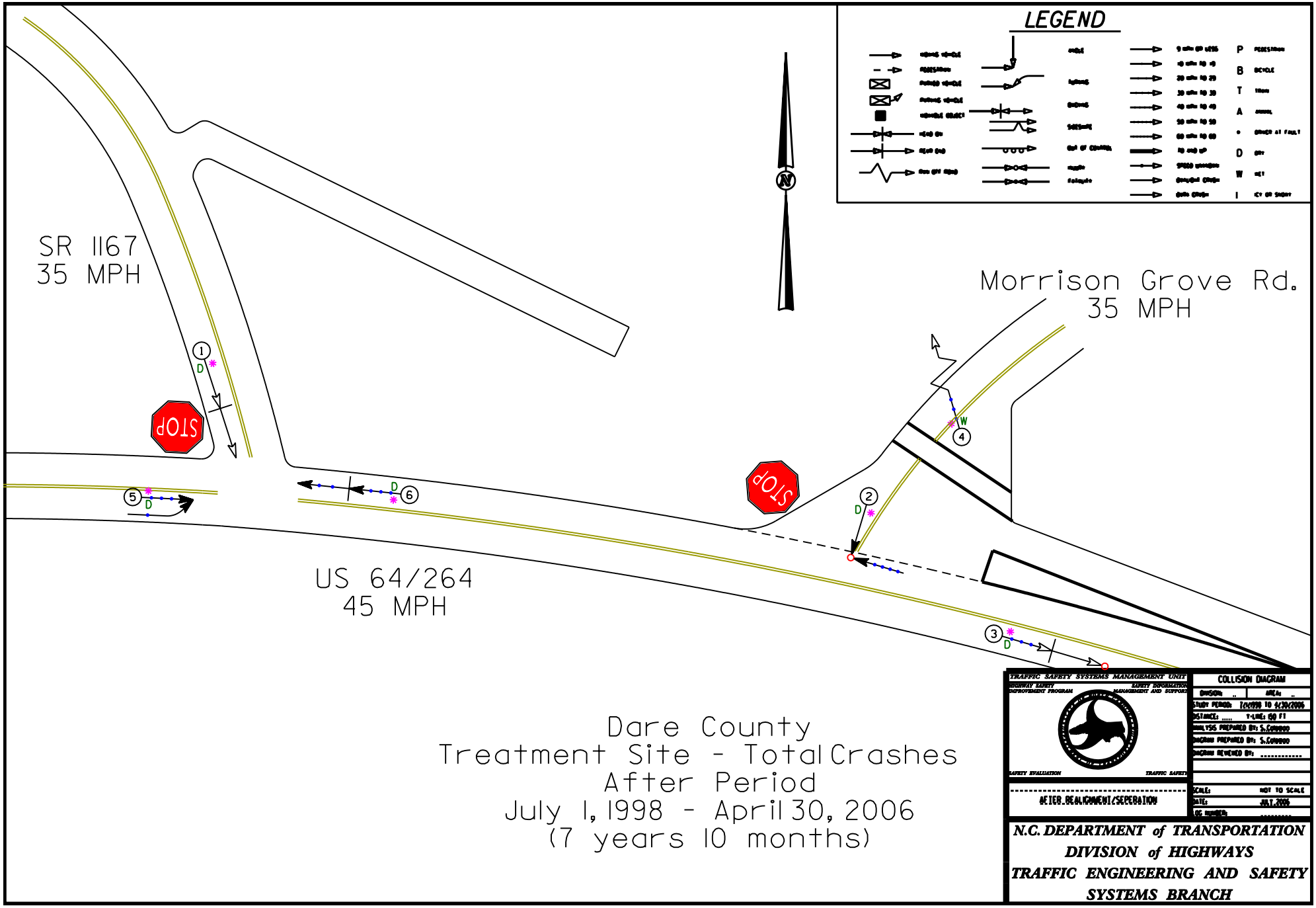
TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT
HIGHWAY SAFETY IMPROVEMENT PROGRAM
SAFETY INFORMATION MANAGEMENT AND SUPPORT
SAFETY EVALUATION
TRAFFIC SAFETY

COLLISION DIAGRAM

BEFORE REALIGNMENT/SEPERATION

SCALE: NOT TO SCALE

N.C. DEPARTMENT of TRANSPORTATION
DIVISION of HIGHWAYS
TRAFFIC ENGINEERING AND SAFETY SYSTEMS BRANCH


LEGEND
SR 1167
35 MPH
Morrison Grove Rd.
35 MPH
US 64/264
45 MPH
STOP
STOP
N
1
2
3
4
5
6
D
W
Dare County
Treatment Site - Total Crashes
After Period
July 1, 1998 - April 30, 2006
(7 years 10 months)
TRAFFIC SAFETY SYSTEMS MANAGEMENT UNIT
COLLISION DIAGRAM
AFTER REALIGNMENT/SEPERATION
SCALE: NOT TO SCALE
N.C. DEPARTMENT of TRANSPORTATION
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